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MEMORANDUM AND RECOMMENDATION
OF THE
PRESIDENT OF THE
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE
EXECUTIVE DIRECTORS
ON A
PROPOSED LOAN
IN AN AMOUNT EQUIVALENT TO US\$60.0 MILLION
TO THE
REPUBLIC OF KOREA
FOR A
HEALTH TECHNOLOGY PROJECT

APRIL 24, 1991

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CURRENCY EQUIVALENTS
(as of December 1990)

Currency Unit - Korean Won (W)

US\$1.00 = W716.00 (December 1990)

WEIGHTS AND MEASURES

Metric System

ABBREVIATIONS AND ACRONYMS

MOHSA	:	Ministry of Health and Social Affairs
NCD	=	Noncommunicable Disease
PCR	=	Project Completion Report
PPAR	=	Project Performance Audit Report

FISCAL YEAR

January 1 - December 31

KOREAHEALTH TECHNOLOGY PROJECTLoan and Project Summary

Borrower: Republic of Korea

Beneficiaries: Private Hospitals

Amount: US\$60.0 million equivalent

Terms: Repayable in 15 years including 5 years of grace at the Bank's standard variable interest rate.

On-lending Terms: The Government would on-lend the proceeds of the loan to private hospitals at the same interest rate, maturity and grace periods as the IBRD loan agreement. Sub-borrowers would bear foreign exchange risk.

Financing Plan:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	-----	US\$ million	-----
Private Hospitals	13.0	8.2	21.2
IBRD	0.0	60.0	60.0
Total	<u>13.0</u>	<u>68.2</u>	<u>81.2</u>

Economic Rate of Return: Not applicable

Staff Appraisal Report: Report No. 9280-KO

Map: IBRD No. 22776R

MEMORANDUM AND RECOMMENDATION OF THE PRESIDENT
OF THE INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
TO THE EXECUTIVE DIRECTORS ON A PROPOSED LOAN
TO THE REPUBLIC OF KOREA
FOR A HEALTH TECHNOLOGY PROJECT

1. The following memorandum and recommendation on a proposed loan to the Republic of Korea for an amount of US\$60.0 million is submitted for approval. The proposed loan would be at the Bank's standard variable interest rate with a 15 year maturity including a grace period of five years. The Government would on-lend the proceeds of the loan to private hospitals at the same interest rate, maturity and grace periods as the IBRD loan agreement. The proceeds would help finance a health technology project.

2. Background. Korea's rapid economic growth in the last two decades has brought about an impressive increase in real living standards and equally impressive improvements in traditional health indicators, reaching a life expectancy of 71 years, a natural population increase of 1% p.a., an infant mortality rate of 12.5 per 1,000 live births, and a 92% immunization rate. Economic success and the control of communicable diseases have, however, brought about a changed disease burden. The major causes of death and disability are now noncommunicable diseases such as heart disease, cancer, stroke, and violence and injury. The demand for medical care is rising rapidly as a result of higher income, the introduction of mandatory national health insurance in 1989, chronic and degenerative diseases, and changing technology. At the same time, there is growing concern in Korea over equity issues, including a perceived increase in income inequality and in equitable access to quality medical care.

3. The Ministry of Health and Social Affairs (MOHSA) is responsible for broad health policy coordination. Health care services in Korea are mostly delivered by the private sector. Four out of five hospital beds--most of them not for profit--are privately managed and private sector spending accounted for 73% of total health sector expenditures in 1989. Direct patient payments have declined from 80% of health care expenditures in 1980 to an estimated 51% in 1990 as a result of broader insurance coverage. About 10% of the population is classified as medically needy and the Government pays for most of their medical care. Private not-for-profit hospitals owned by foundations with large endowments have been able to respond to the rapid transition in the country's disease profile and keep their technology up-to-date through self-financing and leasing of equipment. Hospitals with a more limited financial base have not been able to mobilize investment funding for needed technological adjustments, even in geographic areas that are important to the Government's social development policy. Commercial bankers are not familiar with hospital operations and therefore give low priority to hospital loans.

4. Rationale for Bank Involvement. The Bank's first project in the health sector was a population project (Ln. 1774-5 KO), which was approved in 1979 and closed in 1987. Part of the project monies were on-lent to private hospitals requiring quality-improving investments and the PCR of October 1989 (Report No. 8114) rated project performance satisfactory. While the project was designed to expand and strengthen family planning and maternal and child health programs at a time when population was a major issue, it underwent

major changes during implementation as the economy grew rapidly, altering Korea's health profile. The PPAR (No. 8895, June 29, 1990) praised the project's redesign to meet the changing needs of the sector and its support for loans to private hospitals.

5. The Government has requested the Bank's continued assistance in addressing the epidemiological transition and the recent changes in financing health care services. In June 1989 the Bank issued a health sector report (Report No. 7412-KO), which studied the effects and implications of health insurance on the sector and raised options for the organization and design of the insurance system. Through the proposed project the Bank would further assist the Government in addressing critical sector issues, focussing on equity and efficiency in the diffusion of medical technology and private sector development. In addition, Bank involvement would strengthen MOHSA's institutional capacity for planning and managing hospital sector development and financing, and would enable continued dialogue on other important health sector issues. Furthermore, by participation in this project, the Bank would gain experience in helping a middle-income country adapt to an epidemiological transition which could be utilized in similar countries.

6. Project Objectives. The project would assist the Government's policy of responding to the increased medical care demand resulting from national health insurance, rising incomes, technological innovations, changing population structure, and the shift in the epidemiological profile from communicable to noncommunicable diseases (NCD). It would change the criteria currently in use for introducing biomedical equipment from a hospital-size based approach to a population and geographic distribution basis. This change in allocation criteria would move policy decision making towards a more efficient and rational distribution of biomedical equipment and would make quality medical care accessible to more people. The project would also strengthen the capability of MOHSA to manage the process of allocation and diffusion of medical technologies, and the financial performance of the hospitals selected under the project would be monitored and strengthened, setting an example for improved financial management of hospitals in the private sector.

7. Project Description. The project would: (i) expand the diagnostic and treatment capabilities of NCD specialty units in large referral hospitals; (ii) replace and add biomedical equipment in secondary care hospitals located in large and medium-size cities and distribute it more equitably; and (iii) provide equipment to medium-size city hospitals designated as emergency centers in the national Emergency Medical Services network. Sets of criteria would be strictly applied to the selection of participating hospitals and of equipment. The selection criteria for hospitals would consider the hospital's financial status, its location, its size, and the need for and potential efficient utilization of the requested equipment. The selection of the biomedical equipment would take into consideration the regional distribution among the eight medical regions, the relevance of equipment to medical needs, the training of equipment users, the availability of a recurrent cost budget for operating the equipment, and the sharing of equipment by several facilities. The financing of high cost equipment would be excluded from the project, partly because there is an active leasing market for this type of

equipment, and partly because some procedures are not reimbursable by the national insurance and would therefore not be accessible to the poor. Project implementation would be the responsibility of the Bureau of Medical Affairs in MOHSA. Independent review panels would be set up to apply agreed criteria for selecting hospitals and equipment. MOHSA staff would receive training to manage the on-lending process and the subloans with the selected hospitals.

8. The Project would be implemented over a three and a half year period. The estimated total cost of the project is US\$81.2 million equivalent with a foreign exchange component of US\$68.2 million (84%). The Bank loan of US\$60 million would finance about 85% of the foreign exchange component. The beneficiary hospitals would finance complementary inputs for civil works to house the equipment, transportation and installation costs, maintenance and consumables, and contingencies. A breakdown of costs and the financing plan are shown in Schedule A. Amounts and methods of disbursements, and the disbursement schedule are shown in Schedule B. A timetable of key project processing events and the status of Bank Group operations in Korea are given in Schedules C and D, respectively. A map is also attached. The Staff Appraisal Report, No. 9280-KO, dated April 24, 1991, is being distributed separately.

9. Actions Agreed. During negotiations, the Government agreed that: (i) hospitals would be selected and loan proceeds allocated according to criteria and guidelines acceptable to the Bank; (ii) equipment would be selected according to the criteria and guidelines acceptable to the Bank; (iii) the subloan agreement between MOHSA and the beneficiary hospitals acceptable to the Bank, would be applied to all subloans; and (iv) the financial management specialist recruited by MOHSA for the Project Implementation Unit would be retained for the duration of the project.

10. Project Benefits. As a result of the project, the geographical distribution of biomedical equipment would be improved making it accessible to more people in all eight medical regions of the country. The equipment diffusion criteria would be changed from a hospital size criterion to criteria based on population to be served and their medical needs. MOHSA would be strengthened in its ability to monitor hospital performance and to develop cost containment strategies. Finally, as transparent accounting practices would be required from the participating hospitals, the project would set the stage for the use of uniform accounting procedures and stronger financial management of private hospitals.

11. Project Risks. The principal risk would be defaulting by project institutions and inappropriate selection of beneficiary hospitals. To minimize this risk, procedures have been established to investigate the creditworthiness of recipients of loan proceeds, and one full-time staff member with financial skills and a working knowledge of hospital financing has been recruited by MOHSA to monitor their financial performance during the life of the loan. The Hospital Selection Committee and the Equipment Selection Committee satisfactory to the Bank have already been established and their respective members already appointed. Criteria for selecting beneficiary hospitals have been agreed and their strict application would be monitored

during project supervision. The experience with on-lending under the previous health project was positive and there were no arrears.

12. Environmental Aspects. The proposed project is not expected to result in significant environmental impact.

13. Recommendation. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank and recommend that the Executive Directors approve the proposed loan.

Barber B. Conable
President

Attachments

Washington, D.C.
April 24, 1991

KOREA

HEALTH TECHNOLOGY PROJECT

ESTIMATED COSTS AND FINANCING PLAN

Estimated Costs /a

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	-----	US\$ million	-----
NCD specialty units	3.8	20.4	24.2
Secondary care hospitals	3.8	20.4	24.2
Emergency medical services	3.8	20.4	24.2
Base cost	<u>11.4</u>	<u>61.2</u>	<u>72.6</u>
Contingencies			
Physical	0.6	3.0	3.6
Price	1.0	4.0	5.0
Subtotal	<u>1.6</u>	<u>7.0</u>	<u>8.6</u>
Total Project Cost	<u>13.0</u>	<u>68.2</u>	<u>81.2</u>

/a Net of taxes and duties, which are estimated at US\$4.9 million

Financing Plan:

	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
	-----	US\$ million	-----
IBRD	0.0	60.0	60.0
Private Hospitals	13.0	8.2	21.2
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KOREA
HEALTH TECHNOLOGY PROJECT
PROCUREMENT METHOD AND DISBURSEMENTS

Project Element	ICB	LCB	Other/a	N/A	Total cost including contingencies
Equipment	57.0 (51.0)		10.1 (9.0)		67.1 (60.0)
Equipment transportation and installation				4.0 (0.0)	4.0 (0.0)
Operation, Maintenance and Training				4.7 (0.0)	4.7 (0.0)
Consumable Materials				5.4 (0.0)	5.4 (0.0)
<u>Total</u>	57.0 (51.0)		10.1 (9.0)	14.1 (0.0)	81.2 (60.0)

/a Includes international and local shopping and direct purchase.

Note: Figures in parentheses are the amounts to be financed by the loan.

Disbursements

<u>Category</u>	<u>Amount</u> (US\$ million)	<u>% of Expenditures to be Financed</u>
Equipment	60.0	100% of foreign expenditures; 100% of local expenditures (ex-factory cost); and 65% of local expenditures for other equipment procured locally
<u>Total</u>	<u>60.0</u>	

Estimated IBRD Disbursements:

<u>Bank FY</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
	-----	US\$ million	-----	
Annual	6.5	21.0	29.5	3.0
Cumulative	6.5	27.5	57.0	60.0

Schedule C

KOREA

HEALTH TECHNOLOGY PROJECT

Timetable of Key Project Processing Events

(a) Time taken to prepare:	One year
(b) Prepared by:	Government
(c) First Bank mission:	December 1989
(d) Appraisal mission departure:	December 1990
(e) Negotiations:	April 1991
(f) Planned date of effectiveness:	October 1991
(g) List of relevant PCRs and PPARs:	Population Project (PCR No. 8114) (PPAR No. 8895)

THE STATUS OF BANK GROUP OPERATIONS IN THE REPUBLIC OF KOREA

A. Statement of Bank Loans and IDA Credits /a
(As of March 31, 1991)

Loan or Credit Number	Fiscal Year	Borrower	Purpose	Amount (US\$ million) (less cancellations)		
				Bank	IDA	Undisbursed
Eighty-three loans and nine credits fully disbursed				5,827.39	115.58	
Of which SEGALs, SALs, and Program Loans						
2071	1982	Republic of Korea	Structural Adjustment Loan	250.00		
2354	1984	Republic of Korea	Structural Adjustment Loan II	300.00		
2571-0 + 1	1985	Republic of Korea	Second Industrial Finance	<u>173.06</u>		
				723.06		
2491	1985	Republic of Korea	Water Supply III	90.00		.93
2514	1985	SMG	Seoul Urban Transportation	28.76		5.87
*2571-2	1985	Republic of Korea	Second Industrial Finance	4.00		1.46
2600	1986	Republic of Korea	Seoul-Busan Corridor	34.60		3.59
2726	1986	Republic of Korea	Ports III	134.50		6.80
2905	1988	Republic of Korea	Kyunggi Regional Transport	116.00		25.90
2908	1988	Taegu City Government	Taegu Urban Transport	30.00		17.49
2913	1988	Korea Technology Corp.	Third Technology Development	50.00		4.52
3037	1989	Republic of Korea	Technology Advancement	16.40		12.15
3061	1989	Republic of Korea	Road Improvement	200.00		182.59
3178	1990	Republic of Korea	Juam Water Supply	34.00		34.00
3202	1990	Republic of Korea	Technology Advancement II	31.60		30.50
3203	1990	Republic of Korea	Science Technology Research	45.00		45.00
3314	1991	Republic of Korea	Vocational Education Project	30.00		30.00
3315	1991	Republic of Korea	Technology Advancement III	60.00		60.00
Total				6,732.24	115.58	460.80
of which has been repaid				<u>3,790.79</u>	<u>18.33</u>	
Total now held by Bank and IDA				<u>2,941.45</u>	<u>97.25</u>	
Amount sold				131.51		
of which repaid				<u>86.56</u>		
Total undisbursed				460.80	-	460.80

/a The status of the projects listed in Part A is described in a separate report on all Bank/IDA-financed projects in execution, which is updated twice yearly and circulated to the Executive Directors on April 30 and October 31.

* SAL, SECAL or Program Loan

B. Statement of IFC Investments
(As of March 31, 1991)

Fiscal Year	Obligor	Type of Business	Original Commitments			Total Held by IFC (at cost)	Undisbursed including Participants' Portion
			Loan	Equity	Total		
			US\$million				
1968/74/76/77 78/80/88/90	Korea Long Term Credit Bank /a	Development Finance	16.6	24.8	41.4	22.0	-
1970	Atlas Paper Co.	Pulp & Paper	4.5	.5	5.0	-	-
1969	Honam Silk Ind. Co.	Textiles	1.4	.3	1.7	-	-
1971/74/76/79 80/82/85/89	Korea Investment & Finance Corporation	Capital Markets		8.5	8.5	6.9	-
1975/76/77/79/80 84/85/87/88/89	Gold Star Co., Ltd.	Electric & Electronics	26.0	24.9	50.9	16.9	-
1975/77/80/82/84	Korea Sec. Fin. Corp.	Capital Markets	5.0	3.4	8.4	2.0	-
1975/90	Hae Un Dae Development	Tourism	2.8	1.2	4.0	1.2	-
1975/88/89	Tong Yang Nylon Co. Ltd.	Tire Cord Fabric	6.9	6.2	13.0	5.6	-
1976/84/87	Chonju Paper Mfg. Co. Ltd.	Paper	5.0	.9	5.9	-	-
1976/86/88	Korea Zinc Co. Ltd.	Zinc Refining	21.0	5.6	26.6	9.7	-
1977/79/87	Korea Dev. Leasing Corp.	Leasing	15.0	1.8	16.8	1.2	-
1981	Taihan Bulk Terminal	Grain Bulk Terminal	7.0	2.5	9.5	2.5	-
1982	Korea Tech. Adv. Corp.	Research & Dev.	-	.6	.6	-	-
1983	Korea Dev. Invest. Corp.	Money & Capital Markets	-	6.0	6.0	6.0	2.4
1984	Halla Cement	Cement & Constr. Material	4.2	3.9	8.1	-	-
1985/86	Korea Fund	Money & Capital Markets	-	12.8	12.8	-	-
1987	KBRI	Money & Capital Markets	-	.2	.2	-	-
1988	Anam Industrial Co.	Electronics	-	15.7	15.7	15.7	-
1988	Oriental Chemical	Chemicals	-	15.2	15.2	-	-
			115.4	135.0	250.4	89.8	2.4
<u>Approved but not yet signed</u>							
1990	Korea Dev. Invest. Corp.	Money & Capital Markets	-	.9	.9	.9	.9
	Total Gross Commitments		115.4	135.9	251.3	90.7	3.3

/a Formerly known as Korea Development Finance Corporation

